

**Figure 1. Humanized *R. reniformis* GFP polynucleotide sequence (wt hrGFP; SEQ ID NO: 1)**

5'-

ATGGTGAGCAAGCAGATCCTGAAGAACACCTGCCTGCAGGAGGTGATGAG  
CTACAAGGTGAACCTGGAGGGCATCGTAACAAACCACGTGTTACCATGGA  
GGGCTGCGGCAAGGGCAACATCCTGTTGGCAACCAGCTGGTGCAGATCC  
GCGTACCAAGGGCGCCCCCTGCCCTCGCCTCGACATCGTGAGCCCC  
GCCTTCCAGTACGGCAACCGCACCTCACCAAGTACCCCAACGACATCAGC  
GACTACTTCATCCAGAGCTTCCCCGCCGGCTTCATGTACGAGCGCACCTG  
CGCTACGAGGACGGCGGCCTGGTGGAGATCCGCAGCGACATCAACCTGAT  
CGAGGACAAGTTCGTGTACCGCGTGGAGTACAAGGGCAGCAACTTCCCCG  
ACGACGGCCCCGTGATGCAGAAGACCATCCTGGCATCGAGCCCAGCTTC  
GAGGCCATGTACATGAACAACGGCGTGTGGTGGCGAGGTGATCCTGGT  
GTACAAGCTGAACAGCGGCAAGTACTACAGCTGCCACATGAAGACCTGAT  
GAAGAGCAAGGGCGTGGTGAAGGAGTTCCCCCTCCTACCACTTCATCCAGCA  
CCGCCTGGAGAAGACCTACGTGGAGGACGGCGGCTCGTGGAGCAGCAC  
GAGACCGCCATGCCAGATGACCAGCATCGGCAAGCCCCGGCAGCCT  
GCACGAGTGGGTGTAA-3'

**Figure 2: Sequence of hrGFP-173 (SEQ ID NO: 2); the 18 base insert is underlined**

5'-

ATGGTGAGCAAGCAGATCCTGAAGAACACCGGCCTGCAGGAGATCATGAG  
CTTCAAGGTGAACCTGGAGGGCGTGGTGAACAACCACGTGTTCACCATGGA  
GGGCTGCGGCAAGGGCAACATCCTGTTGGCAACCAGCTGGTCAGATCC  
GCGTGACCAAGGGCGCCCCCTGCCCTCGCCTCGACATCCTGAGCCCC  
GCCTTCCAGTACGGCAACCGCACCTCACCAAGTACCCGAGGACATCAGC  
GACTTCTTCATCCAGAGCTTCCCCGCCGGCTCGTGTACGAGCGCACCTG  
CGCTACGAGGACGGCGGCCTGGTGGAGATCCGCAGCGACATCAACCTGAT  
CGAGGAGATGTTCGTGTACCGCGTGGAGTACAAGGGCCGCAACTCCCCA  
ACGACGGCCCCGTGATGAAGAAGACCATCACCGGCCTGCAGCCCAGCTC  
GAGGTGGTGTACATGAACGACGGCGTGGTGGAGTACAAGGGCCGCAACTCCCCA  
GTACCGCCTGAACCAGCAGATCTGAATTCGACGTGGCAAGTTCTACAGCTG  
CCACATGCGCACCCGTGATGAAGAGCAAGGGCGTGGTGAAGGACTCCCCG  
AGTACCACTTCATCCAGCACCGCCTGGAGAAGACCTACGTGGAGGACGGC  
GGCTCGTGGAGCAGCACGAGACCGCCATGCCAGCTGACCAGCCTGGG  
CAAGCCCCCTGGGCAGCCTGCACGAGTGGGTGTAA-3'

**Figure 3: Polypeptide sequence of hrGFP (SEQ ID NO: 3)**

MVKQILKNTGLQEIMSFVNLEGVVNNHVFTMECGKGNILFGNQLVQIRVTK  
GAPLPFAFDILSPAFCYGNRTFTKYPEDISDFFIQSFPAGFVYERTLRYEDGGLV  
EIRSDINLIEEMFVYRVEYKGRNFPNDGPVMKKITGLQPSFEVVYMDGVLVG  
QVILVYRLNSGKFYSCHMRTLMKSKGVVKDFPEYHFIQHRLEKTYVEDGGFVE  
QHETAIQLTSLGKPLGSLHEWV

**Figure 4: Predicted protein sequence of hrGFP-173 (SEQ ID NO: 4); the 6 amino acid insertion is underlined**

MVKQILKNTGLQEIMSFVNLEGVVNNHVFTMECGKGNILFGNQLVQIRVTK  
GAPLPFAFDILSPAFCYGNRTFTKYPEDISDFFIQSFPAGFVYERTLRYEDGGLV  
EIRSDINLIEEMFVYRVEYKGRNFPNDGPVMKKITGLQPSFEVVYMNDGVLVG  
QVILVYRLNSRSEFDVGKFYSCHMRTLMKSKGVVKDFPEYHFIQHRLEKTYVED  
GGFVEQHETAIAQLTSLGKPLGSLHEWV

**Figure 5 Renilla Reniformis GFP protein coding sequence  
(SEQ ID No: 5)**

R. ren: 1 ATGGTGAGTAAACAAATATTGAAGAACACTGGATTGCAGGAGATCATGTCGTTAAAGTGAATC 64

R. ren: 65 TGGAAAGGTGTAGTAAACAATCATGTGTTACAATGGAAGGTTGTGGAAAAGGAAATATT 124

R. ren: 125 TATTGGAAACCAACTGGTTCAGATTGTCACAAAAGGGCTCCGCTTCCATTGCAT 184

R. ren: 185 TTGATATTCTCTCACAGCTTCCAATACGGCAACCGTACATTACGAAATACCGGAGG 244

R. ren: 245 ATATATCAGACTTTTATACAATCATTCCAGCGGGATTGTATACGAAAGAACGTTGC 304

R. ren: 305 GTTACGAAGATGGTGGACTGGTTGAAATCCGTTCAGATATAAATTAAATCGAGGAGATGT 364

R. ren: 365 TTGTCTACAGAGTGGATATAAAGGTAGTAACCTCCGAATGATGGTCCAGTGTGATGAAGA 424

R. ren: 425 AGACAATCACAGGATTACAACCTCGTTGAAGTTGTATATGAACGATGGCGTCTGG 484

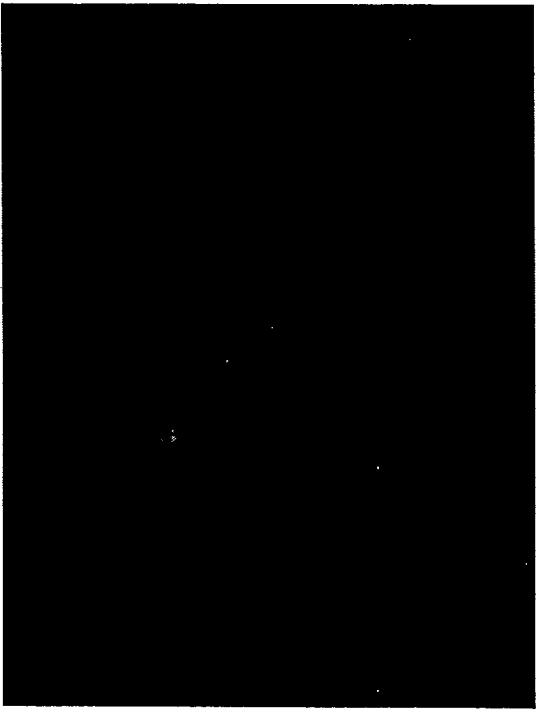
R. ren: 485 TTGGCCAAGTCATTCTGTTATAGATTAAACTCTGGCAAATTATTCGTGTCACATGA 544

R. ren: 545 GAACACTGATGAAATCAAAGGGTAGTGAAGGATTTCCGAATACCATTCAAC 604

R. ren: 605 ATCGTTAGAGAAGACGTATGTGGAAGACGGAGGTTTGAGCAACACGAGACGGCCA 664

R. ren: 665 TTGCTCAACTGACATCGCTGGGAAACCACTGGATCCTACACGAATGGTTAA 720

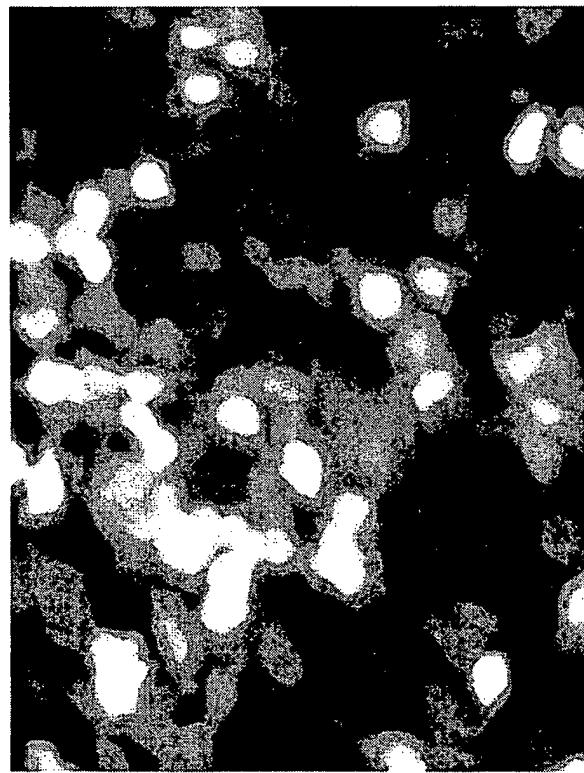
**Figure 6a: hrGFP-173, 24-hour expression in 293 cells**



hrGFP-173 (integrate 111 = 3.69 sec)



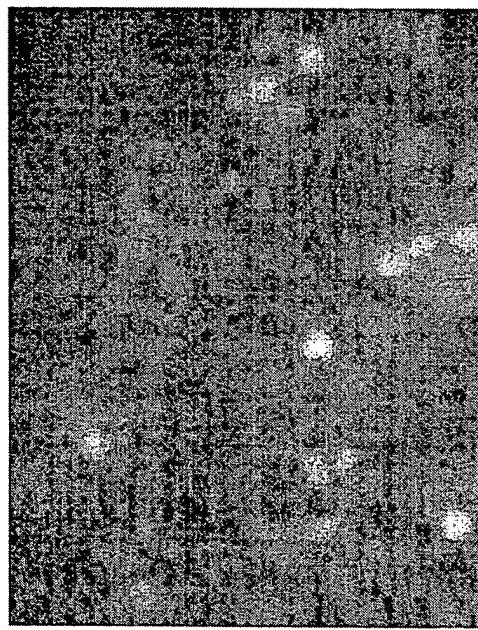
hrGFP-173 (integrate 411 = 13.69 sec)



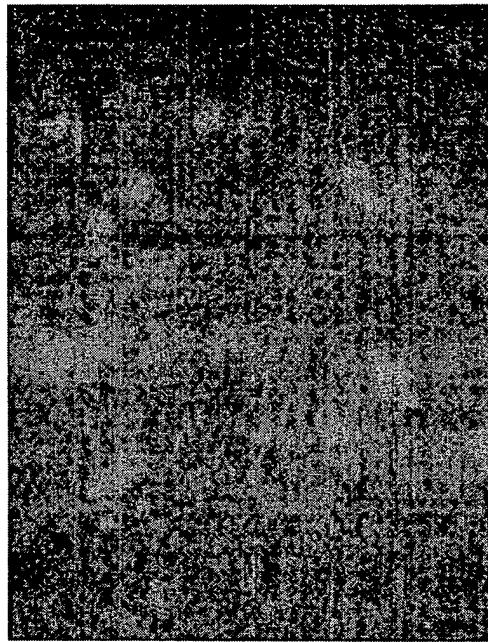
hrGFP (wild type) (integrate 111 = 3.69 sec)

phrGFP-C control integrate 111 = 3.69 sec

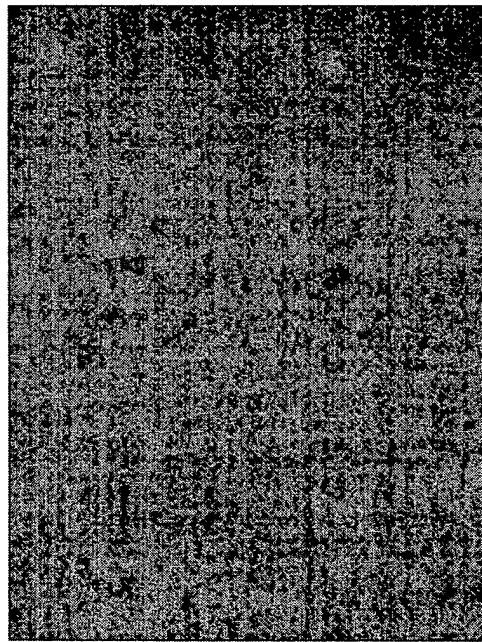
**Figure 6b:** ~70 hr expression of hrGFP-173, -174, -175 and wt  
integrate 411 = 13.69 secs



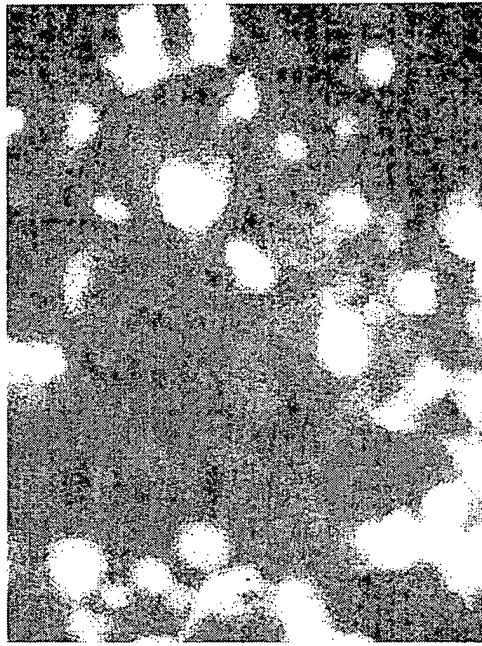
hrGFP-173



hrGFP-174



hrGFP-175



wt hrGFP

**Figure 7: hrGFP-173, 24-hour expression in 293 cells (integrate 3.9 sec)**

